ADVANCED DISTRIBUTED LEARNING

Current Capabilities, Issues, and Trends in LMSs & Authoring Tools

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Disclaimer

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illustrative purposes only
and are NOT an endorsement by ADL

Purpose & Scope

- Present and discuss high-le[vel] capabilities, issues, and tre[nds]

- Functionality-related issues[,] and trends, not business-related

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Authoring Tools

Functional Areas/ Issues - 1

- Training types supported
- Media types supported
- Interactivity level supported
- Author skill set requirements
- Output file format
- Standards compliance (e.g., SCORM)

- Collaborative authoring
- Flexibility of licensing agreement and associated support/training contracts
- Attainability of system requirements for authors and learners
- Optimization for reusability

SCORM 2004 Support Requirements

- The authoring tool should
  - Support object-based learning design
  - Allow SCOs to be defined at any level
  - Support incorporation of all SCORM data model elements
  - Enable metadata tagging
  - Allow definition of sequencing and navigation rules via
    - Sequencing templates
      OR
    - Interface allowing selection of sequencing rule operators
  - Create SCORM 2004-compliant content packages (ideally SCORM 2004 4th Edition)

Ensuring SCORM 2004 Viability

- Test sample SCO produced by authoring tool through SCORM Test Suite

- View sample content on your target course delivery system to ensure it functions as intended

- View SCORM Certified Products and SCORM Adopters lists on the ADL Web site under "What We Do" then "SCORM" http://www.ADLNet.gov/

  (currently being updated)

Trends

- "Organization-aware", team-based life cycle production and maintenance
- XML output
- Separation of content and appearance
- Complex and numerous templates and skins
- Automated metadata generation/extraction
- Learning object-centric architecture
- Embedded best-practice design principles
- Support for immersive learning technologies
- Support for social media

LMSs

LMS Functionality is Defined by Type of Learning

- Learner-led
  - LMS
  - LCMS
- Facilitated
  - Content management system (CMS)
- Instructor-led
  - Virtual learning environment (VLE) aka virtual classroom
- Embedded
  - LMS

Functional Areas/ Issues

- Training workflow

- Delivery

- Assessment

- Collaborative learning options

- Open architecture

- Competencies, curricula, and learning tracks

- Reports

- Ease of administration

SCORM Support

- SCORM-certified LMSs
  - Currently 29 @ 3rd Edition
  - View list on www.ADLNet.gov
- SCORM certification process being revised
  - Revalidation across product lifecycle
  - Align with ISO certification standard
  - New challenge and decertification processes
  - Details coming soon

Trends - 1

- Interoperable assessment authoring (using cmi.interactions)

- Team-based learning

- Web 2.0 integration

- Services/component architecture

- Functionality creep, for example:
  - Authoring
  - KM

- Third party application integration

- Support for multi-byte fonts

Trends - 2

- Optimization for specific pedagogical principles and best practices

- Movement from proprietary database back-end or MySQL to Open Database Alliance

Trends - 3

- Users demand social software as part of learning toolkit

- LMSs incorporate social software in a variety of ways

- For ideas on what may be in store for LMSs and Social Media, visit:
  - www.brandonhall.com
  - www.astd.org
  - www.gartner.com
  - www.socialmediatoday.edu
  - www.socialmedia.com

Trends - 3 (continued)

		Five LMSs Commonly Used in the Federal Government and Social Media Integration				
LMS	**LMS Description**	**Sample List of Integrated Social Media**	**Purpose**	**Supports SCORM**	**VW Integration**	**Perceived Industry Challenges**
Meridian KSI	• Meridian KSI	• Online communities • Blogs	• "Learning First" approach • Traditional LMS • Facilitate Communities of Practice	Yes	• None Listed	• Serious Use • Perceptions
OutStart	• TrainingEdge.com • Talent Management	• Communities • Blogs • Wikis • MS Office • Email	• Informal Learning Enabled • Talent Management	Yes	• Recommends AICC's e-learning standards to weave VW software into fabric of learning content • Using a 'simulations and gaming' paradigm	• Lifecycle Management Issues Tracking
Plateau	• Talent Management • Performance, compensation, career & succession • Learning Management	• Available through Virtual Learning System • Multimedia content • Application demos • VOIP • Real-time Collaboration technologies from Adobe Connect Pro, WebEx, LiveMeeting, & Centra	• Talent Management • Learning Management	Yes	• None Listed	• Integration • Timely accessibility to information
Saba	• Saba • Saba Centra (Collaborative) • Saba Social (Enterprise Social Networking/Productivity Solution)	• Wiki • Communities of Practice • User-generated content capture and exchange • Discussion forums • RSS • Search-based learning • Real-time Collaborative capability (web-conferencing, e-meetings, & virtual classes)	• Learning Management • Talent Management	Yes	• None Listed	• Organizational Control (culture) • Quality/Accuracy
SumTotal	• Total LMS • Total Access (Empower Mobile or offline workforce	• Collaborative Web 2.0 Learning solutions • Online Communities • Discussion forums • Mobile access • Integration with SkillSoft, WebEx™, Interwise® and Centra® • Capture and categorize virtual events for use as job aids or information modules	• Learning Management • Talent Management	Yes	• None Listed	• Organizational Control (culture) • Quality/Accuracy

Trends - 4

- Users want to access functionality of LMSs and VWs in one tool

- VWs incorporate LMS functionality in a variety of ways

- For ideas on what may be in store for LMSs and VWs, visit:
  - www.brandonhall.com
  - www.virtualworldsreview.com/
  - www.sl-educationblog.org/
  - www.educause.com

- Info presented on next slide is in no way exhaustive

Trends - 4 (continued)

Five VWs Commonly Used in the Federal Government and LMS Integration

VW	VW Description	Social Media-Type Functionality	Purpose	Perceived Challenges
ECS Nexus	• 3D environment • Avatar-based, interactive meeting environments • Massive Multi-User Online Environment (MMOE) • **Communicates with LMS**	• Voice Over Internet Protocol (VOIP) • Text chat • Instant Messaging • Buddy lists • Event scheduling and management	• Commercial collaboration & training • Government collaboration & training	• Tracking • Adoption • New Pedagogies
Forterra	• 3D environment • Avatar • Collaborative Meetings • Training & Learning • Events • Specialized Applications • **Communicates with LMS**	• High-quality Audio • Enables embedded links within avatars or 3D objects to launch your social networking sites, profiles, blogs, wikis, or content repositories • Includes web-based modules to help you build communities and facilitate relationships between users • Record & Play • Documentation and Application Sharing • Lotus SameTime Plug-In	• Commercial collaboration & training • Government collaboration & training • Higher Education collaboration & training	• Metrics • Integration
Protosphere	• 3D environment • Avatar • Secure Communication • Built-in Social Network • **Communicates with LMS**	• Application sharing • Voice over IP (VoIP) • Text chat • Video broadcasting facilities • Blogs • Wikis • Create groups & Communities • Document and file sharing	• Commercial collaboration & training • Government collaboration & training • Higher Education collaboration & training	• Integration • Tracking • Perceptions
Qwaq	• Scalable architecture • Secure, flexible, and extensible • Software as a Service (SaaS) • Rich tools • Qwaq Multi-Share • Built-in VoIP and text chat • Built-in data encryption • Open standards • **Communicates with LMS**	• 2-D and 3-D graphics • Data, voice and video integration, Whiteboards, post-it notes, and text notepads • Document and file sharing	• Commercial collaboration & training • Government collaboration & training	• Learning Curve • Tracking • Integration
Vastpark	• Not a single virtual world. Instead, it provides free software tools, APIs and open source libraries so you can deploy (and even monetize) your own virtual worlds and add-ons • **Communicates with LMS**	• Support virtual conferencing and training applications, immersive visualization of products, data, business processes, architecture, gameplay and 3D multiuser environments	• Commercial collaboration & training • Government collaboration & training • Higher Education collaboration & training	• Integration • Tracking

Sources: Information gleaned from vendor web sites, conference presentations, workshops, and discussions.

Resources

Resources - 1

- ADL Initiative
  - http://www.ADLNet.gov/
- Industry surveys, product comparisons, reports, buyers guides
  - Bersin & Associates http://www.bersin.com/
  - Brandon-Hall http://www.brandon-hall.com/
  - E-learning Guild http://www.elearningguild.com/
  - Training Media Review http://www.tmreview.com/

Resources - 2

- "Choosing Authoring Tools" paper and presentation
    1. Go to: http://www.adlnet.gov/Technologies/Lab/default.aspx
    2. See link in **Announcements** section on right side of page
- "Choosing an LMS" paper and presentation in progress

Questions or Comments?

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